

Title (en)

Actuator, lens unit and camera with the same

Title (de)

Stellantrieb, Objektiveinheit und Kamera mit denselben

Title (fr)

Actionneur, objectif et caméra avec ceux-ci

Publication

EP 1643756 A2 20060405 (EN)

Application

EP 05255735 A 20050915

Priority

JP 2004290059 A 20041001

Abstract (en)

The invention is directed to provide an actuator featuring a quick response with a simplified architecture, and a lens unit and a camera having the same. An actuator (10) comprises a fixed member (12), a movable member (14), a movable member supporting means supporting the movable member so as to permit the movable member to move to an arbitrary position in a plane in parallel with the fixed member, at least three actuating coils (20) attached to either one of the fixed member and the movable member, actuating magnets (22) attached to the remaining one of the fixed member and the movable member in positions corresponding to the actuating coils so as to apply magnetic force to the corresponding actuating coils to affect each other when current flows in the actuating coils, a position sensing means (24) detecting a relative position of the movable member to the fixed member, and a control means (36) producing a coil position command signal on the basis of a command signal to instruct where the movable member is to be moved and controlling the drive current to flow in each of the actuating coils in response to the coil position command signal and the position data detected by the position sensing means.

IPC 8 full level

H04N 5/232 (2006.01)

CPC (source: EP US)

H04N 23/68 (2023.01 - EP US); **H04N 23/687** (2023.01 - EP US)

Citation (applicant)

- JP 3186823 B2 20010711
- JP S6242485 A 19870224 - NIPPON KOGAKU KK
- US 5155520 A 19921013 - NAGASAKI TATSUO [JP], et al
- US 6631042 B2 20031007 - NOGUCHI KAZUHIRO [JP]

Cited by

EP1855145A1; US7720366B2

Designated contracting state (EPC)

DE FR GB

DOCDB simple family (publication)

EP 1643756 A2 20060405; **EP 1643756 A3 20070321**; **EP 1643756 B1 20160309**; CN 1755507 A 20060405; CN 1755507 B 20100526; JP 2006106177 A 20060420; JP 4133990 B2 20080813; US 2006072913 A1 20060406; US 7620305 B2 20091117

DOCDB simple family (application)

EP 05255735 A 20050915; CN 200510105185 A 20050930; JP 2004290059 A 20041001; US 24044505 A 20051003